

Amendments to the Claims

1. (currently amended) A portable measuring device comprising:
a housing;
power supply means;
a processor and one or more motion sensors adapted to provide a measure of the relative spatial separation of at least first and second locations;
a user actuated trigger for identifying at least said first location; and
a display for visually presenting information on a measured relative spatial separation ~~characterised in that~~wherein said one or more motion sensors detect motion in six degrees of freedom and said processor is adapted to determine at least one angle as a measure of said relative spatial separation for presentation by said display.
2. (currently amended) ~~A~~The portable measuring device as claimed in claim 1, wherein said processor is adapted to determine said at least one angle with respect to one or both of vertical and horizontal planes.
3. (currently amended) ~~A~~The portable measuring device as claimed in claim 2, wherein said processor is adapted to determine whether said first and second locations are level with respect to either of said vertical or horizontal planes.
4. (currently amended) ~~A~~The portable measuring device as claimed in ~~any one of the preceding claims~~claim 1, wherein said processor is adapted to determine, in addition to said at least one angle, a linear distance separating said first and second locations.
5. (currently amended) A portable measuring device comprising:
a housing;
power supply means;
a processor and one or more motion sensors adapted to provide a measure of the relative spatial separation of at least first and second locations;
a user actuated trigger for identifying at least said first location; and
a display for visually presenting information on a measured relative spatial separation

~~characterised in that~~ wherein said processor is adapted to determine at least one angle and a linear distance as a measure of said relative spatial separation for presentation by said display.

6. (currently amended) A portable measuring device comprising:
a housing;
power supply means;
a processor and one or more motion sensors adapted to provide a measure of the relative spatial separation of at least first and second locations;
a user actuated trigger; and
a display for visually presenting information on a measured relative spatial separation
~~said measuring device being characterised by~~ further including a measuring point provided on said housing having a defined spatial relationship with respect to said one or more motion sensors, said measuring point being provided for identification to said processor, in association with said user actuated trigger, at least one of said first and second locations.

7. (currently amended) ~~A~~ The portable measuring device as claimed in claim 6, wherein said measuring point is visually distinguishable on said housing and user alignable with a user selected spatial location.

8. (currently amended) ~~A~~ The portable measuring device as claimed in either of claims 6 or 7, wherein said measuring point is adapted to be substantially stationary when aligned by a user with a selected spatial location.

9. (currently amended) ~~A~~ The portable measuring device as claimed in claim 8, wherein processor is adapted to determine an error correction when said measuring point is aligned with a selected spatial location and is substantially stationary, in relation to motion detected by said one or more motion sensors.

10. (cancelled)

11. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, wherein the processor is in communication with a volatile memory in which is stored calibration data and the processor is adapted to update calibration data stored in said volatile memory at a second or subsequent location.

12. (cancelled)

13. (currently amended) A-The portable measuring device as claimed in claim 4211, wherein said processor is adapted to adjust for movement of the one or more motion sensors as a result of uncontrolled hand movements of the user when updating calibration data stored in said volatile memory.

14. (cancelled)

15. (currently amended) A portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, comprising a plurality of motion sensors consisting of at least three accelerometers and three angular rate sensors.

16. (cancelled)

17. (cancelled)

18. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, further including a timer, in communication with the processor, for monitoring the time duration of a measurement wherein the processor is adapted to determine the measure of relative spatial separation to a resolution dependent upon the time duration of the measurement.

19. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, wherein the processor is adapted to determine from information

received from the motion sensors when the measuring device is stationary and to generate an error correction.

20. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, wherein the processor has access to threshold data identifying lower limits of measurable spatial movement representative of small, uncontrolled hand movements of a user.

21. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, further comprising a deceleration device for reducing high deceleration forces.

Claims 22-25 (cancelled)

26. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, wherein the processor is adapted to supply real time data on the measured relative spatial separation.

27. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, wherein said first location, from which the spatial separation of said second location is determined, is selected from a reference point, a reference line or a reference plane.

28. (currently amended) A-The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, wherein the processor additionally includes a data store in which motion data is stored and said processor is adapted to update said stored motion data in dependence on calculated error corrections or updated calibration data and to recalculate said measured spatial separation in dependence on the updated motion data.

29. (cancelled)

In re Appln. of Rock et al.
Application No. Unassigned
(U.S. National Phase of PCT/GB2003/004945)

30. (currently amended) A The portable measuring device as claimed in ~~any one of the preceding claims~~claim 6, further including a non-contact distance meter for measuring a distance to a position remote from the measuring device, the position being at least one of said first and second locations.